

Recovery Plan Action Status

Plan Name: Recovery Plan for the Lake Erie Watersnake (*Nerodia sipedon insularum*)

Plan Status: Final

Plan Date: 25-Sep-03

Lead Agency: USFWS

Lead Office: Columbus Ecological Services Field Office

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Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Lake Erie water snake (<i>Nerodia sipedon insularum</i>)	3	1.1	Develop standard monitoring protocol for censuses	Complete	FY 2006	FY 2006	U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities	Research: Population Surveys	Species Expert	Year 1-develop protocol; Years 2-5 modify as necessary
Lake Erie water snake (<i>Nerodia sipedon insularum</i>)	3	1.2.1	Annually census Kelleys Island subpopulation	Complete	FY 2007	FY 2007	U.S. Fish and Wildlife Service, Universities, Consultants	Research: Population Surveys	Internal Field Assistance, Species Expert	
Lake Erie water snake (<i>Nerodia sipedon insularum</i>)	3	1.2.2	Annually census South Bass Island subpopulation	Complete	FY 2007	FY 2007	U.S. Fish and Wildlife Service, Universities, Consultants	Research: Population Surveys	Internal Field Assistance, Species Expert	
Lake Erie water snake (<i>Nerodia sipedon insularum</i>)	3	1.2.3	Annually census Middle Bass Island subpopulation	Complete	FY 2007	FY 2007	U.S. Fish and Wildlife Service, Universities, Consultants	Research: Population Surveys	Internal Field Assistance, Species Expert	
Lake Erie water snake (<i>Nerodia sipedon insularum</i>)	3	1.2.4	Annually census North Bass Island subpopulation	Complete	FY 2007	FY 2007	U.S. Fish and Wildlife Service, Universities, Consultants	Research: Population Surveys	Internal Field Assistance, Species Expert	
Lake Erie water snake (<i>Nerodia sipedon insularum</i>)	3	1.3	Census small subpopulations every 2 years	Complete	FY 2006	FY 2006	U.S. Fish and Wildlife Service, Universities, Consultants	Research: Population Surveys	Internal Field Assistance, Species Expert	
Lake Erie water snake (<i>Nerodia sipedon insularum</i>)	2	2.1.1	Review, revise, redistribute USFWS Lake Erie Watersnake Management Guidelines for Construction, Development and Land Management Activities	Complete	FY 2000 - FY 2004	FY 2011	U.S. Fish and Wildlife Service, Local Governments, Ohio Department of Natural Resources, Universities	Management: Land Use	Internal Technical Assistance	Review and revise at 2-year intervals
Lake Erie water snake (<i>Nerodia sipedon insularum</i>)	2	2.1.2	Review and revise ODNR existing Lake Erie Watersnake Habitat Management Planning Document	Complete	FY 2006	FY 2006	U.S. Fish and Wildlife Service, Ohio Department of Natural Resources	Management: Habitat Maintenance and Manipulation	Labor type not yet selected	Review and revise at 2-year intervals

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Lake Erie water snake (Nerodia sipedon insularum)	2	2.1.3	Review, revise, redistribute Coastal Guidance Sheet No. 9	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Local Governments, Other Federal Agencies, Ohio Department of Natural Resources	Management: Land Use	Labor type not yet selected	Review and revise at 2-year intervals
Lake Erie water snake (Nerodia sipedon insularum)	2	2.2	Develop standard habitat restoration and maintenance guidelines for protected habitat	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities	Management: Land Use	Labor type not yet selected	
Lake Erie water snake (Nerodia sipedon insularum)	2	2.3.1	Develop and implement habitat management plans for all ODNR island properties	Complete	FY 2006	FY 2006	U.S. Fish and Wildlife Service, Ohio Department of Natural Resources	Management: Planning	Internal Technical Assistance	Years 1 and 2-develop plans; years 2-5 implement
Lake Erie water snake (Nerodia sipedon insularum)	2	2.3.2	Implement habitat restoration and maintenance guidelines via management plans for protected habitat on NPS property	Not Started			National Park Service, U.S. Fish and Wildlife Service	Work type not yet selected	Labor type not yet selected	Year 1-develop plans; years 2- 5 implement
Lake Erie water snake (Nerodia sipedon insularum)	3	2.3.3	Implement habitat restoration and maintenance guidelines via management plans for protected habitat on USFWS property if snakes recolonize island	Not Started			U.S. Fish and Wildlife Service	Work type not yet selected	Labor type not yet selected	Year 3-develop plans; years 4- 5 implement
Lake Erie water snake (Nerodia sipedon insularum)	2	2.4	Implement habitat restoration and maintenance guidelines via voluntary management plans for protected habitat on private land (ex, conservation easement)	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Private landowners, BSC-Lake Erie Islands Chapter of the Black Swamp Conservancy, Non-profit organizations	Acquisition: Management Agreement	Labor type not yet selected	Costs of easements, travel, coordination, drafting agreements
Lake Erie water snake (Nerodia sipedon insularum)	3	2.5	Protect habitat through land acquisition	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Other Federal Agencies, Ohio Department of Natural Resources, Non-profit organizations	Acquisition: General	Labor type not yet selected	Land purchases are unlikely. Cost will be adjusted as priority needs are identified.

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Lake Erie water snake (Nerodia sipedon insularum)	2	2.6.1	Consult with Federal agencies under section 7(a)(1) of the ESA	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Other Federal Agencies	Other: Regulations	Internal Field Assistance, Internal Technical Assistance	
Lake Erie water snake (Nerodia sipedon insularum)	3	2.6.2	Review and comment on Section 10(a)(1)(A) permits under the ESA	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources	Other: Regulations	Internal Field Assistance, Internal Technical Assistance	
Lake Erie water snake (Nerodia sipedon insularum)	3	2.6.3	Review and comment on Section 10(a)(1)(B) permits under the ESA	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service	Other: Regulations	Internal Field Assistance, Internal Technical Assistance	Cost of staff time, travel, coordination
Lake Erie water snake (Nerodia sipedon insularum)	2	2.7	Develop a system to evaluate, prioritize, and select potential protected habitat	Complete	FY 2006	FY 2006	U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities	Management: General	Species Expert	
Lake Erie water snake (Nerodia sipedon insularum)	3	2.8	Notify landowners of hibernacula on their property and options to protect it	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities	Management: General	Internal Field Assistance, Internal Technical Assistance	Cost of staff time
Lake Erie water snake (Nerodia sipedon insularum)	3	3.1.1	Continue to print and distribute Lake Erie Watersnake signs	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources	Other: Information and Education	Internal Technical Assistance	Additional printing need projected for FY3
Lake Erie water snake (Nerodia sipedon insularum)	3	3.1.2	Write, publish and distribute LEWS News	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities	Other: Information and Education	Internal Technical Assistance	Cost of mailing, printing, designing
Lake Erie water snake (Nerodia sipedon insularum)	3	3.1.3	Participate in presentations about the snake at public events	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities, Consultants, BSC-Lake Erie Islands Chapter of the Black Swamp Conservancy, Non-profit organizations	Other: Information and Education	Internal Field Assistance, Internal Technical Assistance	Cost of staff time, travel, materials
Lake Erie water snake (Nerodia sipedon insularum)	2	3.1.4	Post educational displays on public lands	Ongoing Current	FY 2007		National Park Service, U.S. Fish and Wildlife Service, Ohio Department of Natural Resources	Other: Information and Education	Internal Field Assistance, Internal Technical Assistance	Cost of printing and designing displays

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Lake Erie water snake (Nerodia sipedon insularum)	2	3.1.5	Address residents concerns about snakes on their property	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities, Consultants	Management: General	Internal Field Assistance, Internal Technical Assistance	Cost of stafftime, travel
Lake Erie water snake (Nerodia sipedon insularum)	3	3.1.6	Facilitate media coverage of pertinent Lake Erie Watersnake issues	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities	Other: Information and Education	Labor type not yet selected	
Lake Erie water snake (Nerodia sipedon insularum)	2	3.2	Evaluate effectiveness of public outreach in reducing intentional mortality	Complete	FY 2008	FY 2008	U.S. Fish and Wildlife Service, Consultants	Research: Other Information	Contract	Every two years
Lake Erie water snake (Nerodia sipedon insularum)	2	3.3	Address road kill mortality	Complete			Universities	Management: Habitat Maintenance and Manipulation	Species Expert	Years 2-3-Cost of travel and coordination; Years 4-5-implementation
Lake Erie water snake (Nerodia sipedon insularum)	2	4.1	Research survivorship and demographic perturbation analysis	Complete	FY 2007	FY 2010	Universities, Consultants	Research: Demographic Studies	Species Expert	Study began in 2003, will continue for 2 more years, final report in 2010.
Lake Erie water snake (Nerodia sipedon insularum)	3	4.2	Research foraging behavior and prey	Complete	FY 2005	FY 2009	Universities, Consultants	Research: Dietary Studies	Species Expert	
Lake Erie water snake (Nerodia sipedon insularum)	3	4.3	Research impact of invasive species and contaminants	Complete	FY 2005	FY 2008	Universities, Consultants	Research: Environmental Contaminants	Species Expert	In conjunction with foraging research
Lake Erie water snake (Nerodia sipedon insularum)	2	4.4	Identify high quality hibernation locations	Ongoing Current	FY 2007		Universities, Consultants	Research: General	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Lake Erie water snake (Nerodia sipedon insularum)	3	4.5	Research areas of&FRequent roadkill	Complete	FY 2005	FY 2007	Universities, Consultants	Research: Other Information	Graduate Student	
Lake Erie water snake (Nerodia sipedon insularum)	3	5.1	Meet with partners and researchers to evaluate recovery progress and identify additional needs	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Ontario Ministry of Natural Resources, Ohio Department of Natural Resources, Universities, Consultants, Canadian Wildlife Service	Management: General	Species Expert	Meet every 2 years

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Lake Erie water snake (Nerodia sipedon insularum)	3	5.2	Revise plan as appropriate at 5-year intervals	Not Started			U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, Universities	Work type not yet selected	Labor type not yet selected	
Lake Erie water snake (Nerodia sipedon insularum)	3	5.3	Develop a post-delisting monitoring plan	Complete	FY 2010	FY 2010	U.S. Fish and Wildlife Service, Universities	Management: Planning	Internal Field Assistance, Species Expert	